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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,214	07/28/2003	Steven B. Lonnes	2001.079	5456

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EXAMINER
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BOMAR, THOMAS S

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/628,214	<b>Applicant(s)</b> LONNES ET AL.	
	<b>Examiner</b> Shane Bomar	<b>Art Unit</b> 3672	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 4-10, 13, 14, 17, 19-23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 6,388,577 to Carstensen.

Regarding claims 1, 17, and 19, Carstensen discloses a system of two or more valves wherein said valves operate over a designated pressure interval and are arranged to actuate performance of a sequenced set of events by one or more downhole tools with the application of pressure to said valves (see Figs. 1-4 and 9, col. 5, line 42 through col. 6, line 65, and col. 11, lines 25-35), and an associated apparatus comprising a combination of two or more valves arranged as sub-assemblies wherein one sub-assembly communicates with another sub-assembly through pressure isolating connections (see col. 5, line 47 through col. 6, line 16, and col. 11, lines 25-35).

Regarding claim 4, one or more of the valves is inherently annular based.

Regarding claim 5, the set of events is selected from the currently claimed group of events (see col. 4, lines 12-35).

Regarding claim 6, said valves operate one or more remote electrical devices that communicate with a command base via a wireline (see col. 6, lines 31-33, and col. 7, line 53 through col. 8, line 14).

Regarding claim 7, said valves operate one or more remote electrical devices that are powered at a remote location without requiring wireline support (see col. 3, lines 47-62).

Regarding claims 8-10 and 21-23, at least one of valves 23, 25, 110, or 112 is inherently adaptable to: allow fluid to flow therethrough in only one direction, to cause fluid flow therethrough to cease when said fluid flow reaches a predefined rate or imposes a predefined pressure upon said valve, or to allow fluid flow therethrough when said fluid flow imposes a predefined pressure upon said valve.

Regarding claims 13, 14, and 26, one or more orifices are adapted to limit flow of fluid through one or more of said valves to a predefined flowrate (see col. 5, lines 51-57 and col. 6, lines 41-44).

Regarding claim 20, wireline communication is provided through said sub-assemblies (see Figs. 3-4).

### ***Claim Rejections - 35 USC § 103***

3. Claims 2, 3, 12, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carstensen in view of US patent 6,450,263 to Schwendemann.

Carstensen teaches the system and apparatus of two or more valves that operate over a designated pressure interval as applied to claims 1 and 17 above. It is not expressly taught that one or more of the valves is a cartridge valve, a single purpose cartridge valve, or that a burst disk is present to allow fluid flow out of one or more of the downhole tools.

Schwendemann teaches a valve that operates over a designated pressure interval similar to that of Carstensen. It is further taught that the valve is a single purpose cartridge type valve with a burst disk that can be adapted to allow fluid flow out of one or more of the downhole tools (see Fig. 5 and col. 1, lines 32-65). It would have been obvious to one of ordinary skill in the art,

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having the teachings of Carstensen and Schwendemann before him at the time the invention was made, to modify the system of valves taught by Carstensen to include the single purpose cartridge type valve of Schwendemann. One would have been motivated to make such a combination since Schwendemann has shown it to be notoriously known in the downhole well tool art to use these types of valves to perform actions at predetermined well pressures.

4. Claims 2, 3, 11, 12, 18, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carstensen in view of US patent 4,865,127 to Koster.

Carstensen teaches the system and apparatus of two or more valves that operate over a designated pressure interval as applied to claims 1 and 17 above. It is not expressly taught that one or more of the valves is a cartridge valve, a single purpose cartridge valve, or that a burst disk is present to allow fluid flow out of one or more of the downhole tools, or that at least one screen is adapted to filter solids having predefined dimensions from fluids before the fluids flow through one or more of the valves.

Koster teaches downhole valves that operate over a designated pressure similar to that of Carstensen. It is further taught that the valve is a single purpose cartridge type valve 55 with a burst disk that can be adapted to allow fluid flow out of one or more of the downhole tools, and that at least one screen is adapted to filter solids having predefined dimensions from fluids before the fluids flow through one or more of the valves (see Figs. 4 and 5, and col. 4, lines 19-40). It would have been obvious to one of ordinary skill in the art, having the teachings of Carstensen and Koster before him at the time the invention was made, to modify the valve system taught by Carstensen to include the single purpose cartridge type valve and filter screen of Koster, in order to obtain a system for deflating a packer after its intended use. One would have been motivated

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to make such a combination since Koster has shown it to be notoriously known in the art to use single purpose cartridge type valves and filter screens downhole for this purpose.

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,704,426 to Rytlewski et al in view of Carstensen.

Regarding claim 15, Rytlewski et al teach a method for perforating and treating multiple intervals of one or more subterranean formations intersected by a wellbore, said method comprising the steps of: (a) deploying a bottom-hole assembly ("BHA") from a tubing string within said wellbore, said BHA having a perforating device 152, 154, or 156, and a sealing mechanism 158; (b) using said perforating device to perforate at least one interval of said one or more subterranean formations; (c) positioning said BHA within said wellbore and activating said sealing mechanism so as to establish a hydraulic seal below said at least one perforated interval; (d) pumping a treating fluid down the annulus between said tubing string and said wellbore and into the perforations created by said perforating device (see col. 1, lines 6-16), without removing said perforating device from said wellbore; (e) releasing said sealing mechanism; and (f) repeating steps (b) through (e) for at least one additional interval of said one or more subterranean formations (see Figs. 14a-14d and col. 11, line 34 through col. 12, line 25). It is not expressly taught that at least one of said steps is actuated by a system of valves that operates over a designated pressure interval and is arranged to actuate performance of said step with the application of pressure to said valves.

Carstensen broadly teach a valve system that can be used with most any type of pressure actuated downhole tool, including a perforating tool and sealing mechanism (see Fig. 2 and col. 7, line 56 through col. 8, line 9). It is further taught that the system of valves operates over a

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designated pressure interval and is arranged to actuate performance of said step with the application of pressure to said valves (see col. 5, line 42 through col. 6, line 65, and col. 11, lines 25-35). It would have been obvious to one of ordinary skill in the art, having the teachings of Rytlewski et al and Carstensen before him at the time the invention was made, to modify the method taught by Rytlewski et al to include the valve system of Carstensen, in order to obtain a valve system that substantially reduces the number of control lines extending to the earth's surface, as taught by Rytlewski et al in column 11, lines 64-66. One would have been motivated to make such a combination because Rytlewski et al have shown it to be economical and convenient to employ this system downhole for any type of pressure operated tool, wherein it is well known that economics and convenience are important factors for the selection of downhole actuation systems (see col. 1, lines 56-67), and because Carstensen has shown it to be notoriously known in the art to operate a perforating device with valves of this type.

Regarding claim 16, the combination applied to claim 15 above teaches that additional steps are performed including establishing electrical communication through said sealing mechanism (see Fig. 2 and col. 7, line 56 through col. 8, line 9 of Carstensen).

### ***Response to Arguments***


6. Applicant's arguments with respect to claims 1, 15, and 17 have been considered but are moot in view of the new ground(s) of rejection.


*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shane Bomar whose telephone number is 571-272-7026. The examiner can normally be reached on Monday - Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David J. Bagnell  
Supervisory Patent Examiner  
Art Unit 3672

tsb   
April 7, 2005